## REMARKS

By the foregoing amendment, the sintered plate is now stated to have a thickness which is less than the green layer having a cavity within which it is arranged and further that the sintered plate-containing cavity thickness does not exceed the thickness of the green layer containing that cavity. The claim also makes it clear that any via hole communicating with the cavity is not a part of that cavity. In light of this clarification, it is respectfully submitted that the rejection under 35 U.S.C. § 112 can be withdrawn.

The first change appearing in amended claim 1 above is intended to reflect that the laminate may have a variety of other sintered plates such as elements 7, 8 and 9 of Figure 3.

It is respectfully submitted that the rejections of Claims 1, 4-7, 9-12, 14, 16 and 18-20 under 35 U.S.C. § 103 over either Branchevsky in view of Polinski or Branchevsky in view of Polinski and Jean or Kodama in view of Jean and of Claims 8, 13 15 and 17 under 35 U.S.C. § 103 over either Branchevsky in view of Polinski and Nomura or Branchevsky in view of Polinski and Jean and Nomura or Kodama in view of Nomura should be withdrawn.

Ceramics generally undergo a large dimensional change (shrinkage) when they are sintered and this can cause major problems. A number of methods have been proposed to address this problem. In what is called the non-shrinkage method, the shrinkage of the in green ceramic laminate in the plane (X-Y) direction is largely restrained while the laminate shrinks in the lamination (Z) direction during firing. If the green laminate which is being fired contains a cavity, however, the surface of the resulting laminate will be greatly warped or distorted as a result of the firing. In the present invention, that problem is addressed by providing a sintered plate having an

area smaller than the area of the primary face of the green layer for the substrate on which the plate is arranged as well as having a thickness which is less than that of the green layer within which the plate is arranged and disposing the sintered plate in the cavity formed in the green layer. As a result, warping or distortion of the surface of the laminate during firing can be effectively retarded. As pointed out on page 15 of this application, since the sintered plate has reduced thickness (see, e.g., Fig. 4), firing of the unsintered composite laminate including the sintered plate can be performed without problems. As pointed out on page 11, when the shape of the sintered plate is about 100 μm or less, the shrinkage behavior in the direction of thickness need not be severely controlled.

The features of the claimed invention are not taught or suggested by the cited art whether considered alone or in combination.

The Branchevsky reference relates to embedding multilayer ceramic capacitors in a low temperature co-fired ceramic substrate. A multilayer capacitor is formed on the surface of a first ceramic tape and then a second ceramic tape having an opening accommodating the capacitor is placed on top of the first layer. Vias are provided in order to connect the capacitor internally electrodes to external electrical connections. A third tape can be placed on top of the second tape. As shown, for example, in Figure 12, the multilayer capacitor fills the cavity in the second tape layer. Because the cavity in the second tape layer is filled, there is effectively no open cavity in the laminate when the construction is fired. As a result, the Branchevsky arrangement is not subject to the warping or distorting which occurs during firing as the result of having a cavity which is not completely filled. The Office Action correctly notes that Branchevsky does not disclose providing the laminate with a restriction layer and it will be appreciated that one reason it does not do so is that the warping and distortion addressed by the present invention is not a problem.

Polinski has been cited to show applying shrinkage control layers on both sides of a substrate for restricting shrinkage during co-firing. However, none of the layers in the Polinski construction involve a cavity having gaps. Accordingly, a combination of Branchevsky and Polinski would not result in the claimed invention and there is nothing in these references to teach or suggests what modifications would need to be made in order to fall within the scope of the instant claims.

The Jean reference does not overcome the deficiencies in the combination of Branchevsky and Polinski. It teaches positioning a diode die in the through hole of a ceramic tape. The diode die has a thickness which is slightly less than the tape having the through hole but has an area which is the same as the area of the primary face of the green tape on which it is arranged. The combination of Jean with the other references would, therefore, not realize the claimed invention.

Nomura is being relied upon with respect to the specific dimension of the plate is some dependent claims. The Office Action advanced the proposition that the thickness of the capacitor would be in the range of 100 μm or less if one takes the number and thicknesses within the preferred range suggested by Nomura into consideration. Even if that assertion is correct, neither the calculation nor anything else in this reference suggests that the thickness of a sintered plate be different from that of any of the green layers, particularly the green layer in which it is arranged.

The Kodama patent relates to a method of producing a multilayer ceramic body having improved dimensional accuracy by providing a sintered body in which the whole or a part of a side surface has a curved surface. This is attained by controlling both the pressure applied and the optimum level of the frictional or constraining force between a material which applies pressure and the material to which pressure is applied. While an embodiment is disclosed which includes embedding a

substrate which has been fired as an interior layer of the composite body, there is no teaching or suggestion of providing a multilayer body which includes a plurality of green layers, a green layer having a cavity and a sintered plate of a fired first ceramic functional material disposed in that cavity. It also does not teach or suggest that the sintered plate have an area smaller than the area of the primary face of the green layer for the substrate on which the plate is arranged and that the sintered plate have a thickness which is smaller than the thickness of the green layer in which the plate is arranged. To the contrary, Kodama indicates that the fired substrate is a substitute for one of the layers of the laminate and as such, it would have the same thickness as the other layers. Indeed, it is submitted that the statement in Example 14 that the capacitor in a via hole is in three-dimensional contact with the wirings is a teaching that the capacitor has the same thickness as the hole.

The Jean and Nomura patents have been discussed above. They do not cure the deficiencies in Kodama.

In light of all of the foregoing, it is respectfully submitted that this application is now in condition to be allowed and the early issuance of a Notice of Allowance is respectfully solicited.

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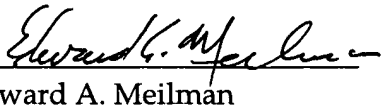
Respectfully submitted,

By 

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